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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,587	02/23/2004	Kevin G. Osborn	SUN04-01(040577)	9651

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BARRY W. CHAPIN, ESQ.
CHAPIN INTELLECTUAL PROPERTY LAW, LLC
WESTBOROUGH OFFICE PARK
1700 WEST PARK DRIVE, SUITE 280
WESTBOROUGH, MA 01581

EXAMINER

SHAN, APRIL YING

ART UNIT	PAPER NUMBER
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2135

MAIL DATE	DELIVERY MODE
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08/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/784,587	Applicant(s) OSBORN, KEVIN G.	
	Examiner APRIL Y. SHAN	Art Unit 2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-21, 23-30 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9, 14, 17-21, 23-25, 30 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 5, 10-13, 21 and 26-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A Request for Continued Examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4 June 2008 has been entered.
2. Claims 1, 7, 11, 17, 23, 30 and 32 have been amended. Claims 6, 22 and 31 have been canceled. Claims 15 and 16 are withdrawn due to restriction requirement. No new claims have been added. Claims 1-5, 7-14, 17-21, 23-30 and 32-34 have been examined.
3. Applicant's amendments and argument have been fully considered, but are moot in view of new ground rejection as set forth below. It is noted that Applicant's arguments are directed towards limitations newly added via amendments. Any well known art statements from the last office action not argued by the Applicant are taken as admittance of prior art as per MPEP 2144.03.
4. Any objections or rejections not repeated below for record are withdrawn due to Applicant's amendment.

Admitted Prior Art

5. The examiner is aware of Applicant's Admitted Prior Art on pages 1-3 of the Applicant's original disclosure.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 17-21, 23-29 and 32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 17-21, 23-29 and 32 are directed to a data communication device for tracking incoming transmissions. However, it appears that the device would reasonably be interpreted by one of ordinary skill in the art as software, per se. The two elements positively recited, as part of the device are "mail server" and "processor". Applicant's specification provides no explicit and deliberate definition of any positive element, and it appears that such would reasonably be interpreted as representative of the software. Contrary to the Applicant's argument that processor is always referring to hardware, one skill in the art would understand that a processor as defined by the Authoritative Dictionary of IEEE Standards Terms is "**software** that includes the compiling, assembling, translating, and related functions for a specific programming language" and mail server is a **program** responsible for receiving, routing, and delivering e-mail messages to an ordinary skill in the art. As such, it believed that the device of claims 17-21, 23-29 and 32 are reasonably interpreted as functional descriptive material, per se.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-3, 8-9, 14, 17-19, 24-25, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Fielding et al. (U.S. Pub. No. 2004/0172551) and further in view of examiner's official notice.

As per **claims 1, 17 and 32**, Admitted Prior Art discloses a method/data communication device of tracking incoming transmissions comprising:

identifying an incoming transmission including at least one identifiable portion (e.g. page 2, lines 9-21 of the Applicant's Admitted Prior Art);

computing, for each identifiable portion in the incoming transmission, a fingerprint indicative of the identified portion, the fingerprint being substantially unique to the identified portion ("The present invention is based, in part, on the observation that typical conventional virus detection software monitors incoming arrivals of network traffic" – page 3, lines 3-4 of the Applicant's original disclosure and "The conventional virus detection application also computes a signature for portions of incoming messages for comparison" – e.g. page 2, lines 19-20 of the Applicant's original disclosure);

receiving a set of comparison fingerprints corresponding to known portions, the

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comparison fingerprints being predetermined (“Such conventional virus detection applications, therefore, employ a set of known virus fingerprints for comparison with incoming mail messages” – e.g. page 2, lines 22-25 of the Applicant’s original disclosure); and

comparing the stored fingerprints to the comparison fingerprints to identify stored fingerprints matching comparison fingerprints and, if a match is found, identifying the previous incoming transmission corresponding to the matching stored fingerprint (“...Conventional off-the-shelf (OTS) virus detection software typically scans for such undesirable transmission by matching against **a set of known harmful transmissions. Typically, such conventional matching includes comparing a signature or other digital artifact...**therefore, employ a set of known virus fingerprints for comparison with incoming mail message...” - e.g. page 2, lines 9-25 of the Applicant’s original disclosure).

Admitted Prior Art does not expressly disclose storing an indication of the subsequent disposition of the incoming transmission; receiving a subsequent set of comparison fingerprints, the subsequent set indicative of refinements to the known portions; matching the subsequent set to the stored fingerprints; determining, based on the matching of the subsequent set, if the subsequent set of comparison fingerprint is indicative of an undesirable portion in the incoming transmission; and selectively performing, based on the determining, a remedial action in response to the subsequent disposition. However, this well known feature of storing an indication of the subsequent disposition of the incoming transmission; receiving a subsequent set of comparison fingerprints, the subsequent set indicative of refinements to the known portions; matching the subsequent set to the stored fingerprints; determining, based on the matching of the subsequent set, if the subsequent set of comparison fingerprint is indicative of an undesirable portion in the incoming transmission; and

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selectively performing, based on the determining, a remedial action in response to the subsequent disposition is disclosed in the abstract of Fielding et al., “..If quarantined the file is safely stored until virus software is updated properly with later developed virus definition file (s), which are then used to eradicate or clean the infected file(s) or computer systems”.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate Fielding et al.’s storing an indication of the subsequent disposition of the incoming transmission; receiving a subsequent set of comparison fingerprints, the subsequent set indicative of refinements to the known portions; matching the subsequent set to the stored fingerprints; determining, based on the matching of the subsequent set, if the subsequent set of comparison fingerprint is indicative of an undesirable portion in the incoming transmission; and selectively performing, based on the determining, a remedial action in response to the subsequent disposition into Admitted Prior Art motivated by “require a much more effective and much faster means to prevent virus and other malicious software from harming their networks, servers, computers and other electronic devices” (e.g. par. [0008] of Fielding et al.)

Although the Admitted Prior Art – Fielding et al. does not expressly disclose storing the computed fingerprint to generate a set of stored fingerprints, the Admitted Prior Art discloses on page 2, lines 22-27, “Such conventional virus detection applications, therefore, employs a set of known virus fingerprints for comparing with incoming mail messages. The **set contains** a fingerprint for each known virus which the application is to protect against, and the application compares each fingerprint in the set to suspect message portions. Typically, vendors of such conventional virus detection applications provide **periodic updates** including additions to the fingerprint set of known virus”. In order to make record clearer, the examiner takes official notice that It is common

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knowledge in the art that in order to compare a set of fingerprints computed from a message against a set of fingerprints stored in the database or repository and in order to periodic updates to the fingerprint set of known virus, the computed fingerprints at least have to be stored in a temporary buffer or storage prior to comparison and updates. It would have been obvious to a person with ordinary skill in the art at the time of invention that storing the computed fingerprint to generate a set of stored fingerprint in order to be compared against/update the fingerprints stored in the database or repository.

As per **claims 2 and 18**, Admitted Prior Art further discloses wherein storing further comprises selectively storing, if the incoming transmission does not correspond to the comparison fingerprints, at least one fingerprint corresponding to the identifiable portions of the incoming transmission (e.g. page 2, lines 19-21 of the Applicant's original disclosure).

As per **claims 3 and 19**, Admitted Prior Art further discloses wherein computing the fingerprint value includes determining a signature and comparing comprises signature matching (e.g. page 2, lines 22-25 of the Applicant's original disclosure).

As per **claims 8 and 24**, Admitted Prior Art – Fielding et al. – examiner's official notice further discloses wherein the incoming transmission further comprises a series of potentially harmful network transmissions, each of the incoming transmission operable to include malicious code, wherein the subsequent disposition includes delivery to at least one successive recipient and remedial action includes determining the successive recipients from the stored successive disposition and notifying each of the successive recipients (Admitted Prior art – page 2, lines 19-25).

As per **claims 9 and 25**, Admitted Prior Art further discloses wherein the determined undesirable portion did not indicate undesirable transmissions based on the comparing of a previous set of comparison fingerprints (e.g. page 2, lines 19-25).

As per **claim 14**, Admitted Prior Art further discloses wherein the undesirable portions are selected from the group virus, worms and Trojan horses included as an attachment according to an established mail protocol (e.g. page 1, lines 4-5 and page 2, lines 9-13)

As per **claim 30**, Admitted Prior Art – Fielding et al. – examiner’s official notice discloses the claimed method of steps as applied above in claim 1. Therefore, Admitted Prior Art – Fielding et al. – examiner’s official notice discloses the claimed computer program/computer data signal for carrying out the method of steps.

11. Claims 4, 7, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art – Fielding et al. (U.S. Pub. No. 20040172551) – examiner’s official notice as applied to claims 1 and 17 above, and further in view of Paul (U.S. Patent No. 6,052,709).

As per **claims 4 and 20**, Admitted Prior Art – Fielding et al. - examiner’s official notice further discloses comprising receiving at least one successive set of comparison fingerprints, and iteratively comparing the successive sets of comparison fingerprints to the stored fingerprints (page 2, lines 19-25 of the Applicant’s original disclosure).

Admitted Prior Art – Fielding et al. - examiner’s official notice does not expressly disclose wherein if a match is found, identifying a distribution set of the incoming message corresponding to the matching stored fingerprint and transmitting an indication of the match to the distribution set.

However, Paul discloses wherein if a match is found, identifying a distribution set of the incoming message corresponding to the matching stored fingerprint and transmitting an indication of

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the match to the distribution set (abstract, col. 1, line 61 – col. 2, line 24, col. 4, line 35 – col. 5, line 9).

It would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate Paul's if a match is found, identifying a distribution set of the incoming message corresponding to the matching stored fingerprint and transmitting an indication of the match to the distribution set into Admitted Prior Art – Fielding et al. - examiner's official notice motivated by "there is a need for a system that automatically and efficiently identifies unsolicited e-mails messages and controls the delivery of these messages to users" (e.g. Paul, col. 1, lines 41-49)

As per **claims 7 and 23**, Paul further discloses wherein the subsequent disposition includes transmitting the incoming transmission to a list of successive recipients; and the remedial action is sending a notification to the successive recipients indicative of the matching incoming transmission (e.g. abstract).

12. Claims 33 and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art – Fielding et al. (U.S. Pub. No. 20040172551) – examiner's official notice as applied to claims 1 and 17 above, and further in view of Van der Made (U.S. Pub. No. 20030212902).

As per **claims 33 and 34**, Admitted Prior Art – Fielding et al. – examiner's official notice in the art does not expressly disclose identifying a previous incoming transmission is a retroactive analysis of a previously accepted transmission.

Van der Made discloses identifying a previous incoming transmission is a retroactive analysis of a previously accepted transmission ("Most preferably, each time a new program is analyzed a new

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instance of the AVPE is generated, free of modification by any previously virtualized programs including any earlier analyzed viruses...setting bits in the behavior pattern register according to the observed behaviors. It is these bits in the behavior pattern that are retained after the simulation is complete...The bits stored in the behavior pattern register are the behavior pattern and subsequent analysis indicates whether the virtually executed program includes behaviors indicative of the presence of a virus or other malignant code....” – e.g. par. [0037])

It would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate Van der Made's identifying a previous incoming transmission is a retroactive analysis of a previously accepted transmission into Admitted Prior Art – Fielding et al. – examiner's official notice motivated by improving techniques for detecting virus and other malicious types of code are desirable (e.g. Van der Made, paragraph [0013]) in order to avoid identifying a large number of false positives for P-code and N-code programs and to detect all virus or malicious code not previously identified and all virus or malicious code created after the update to the signature database will be detected (e.g. Van der Made, par. [0005] – [0007]).

Allowable Subject Matter

13. Claims 5, 10-13, 21 and 26-29 would be allowable if rewritten to overcome the above 35 U.S.C. 101 as set forth in this Office action. Further, claims 5, 10-13, 21 and 26-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claims 5, 10-13, 21 and 26-29, the cited prior arts fail to teach the combination elements of wherein the set of comparison fingerprints are virus signatures computed from known

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undesirable transactions, demarcating the incoming transmission into segments, each segment operable to yield a fingerprint, wherein comparing further comprises comparing each value in the set of comparison fingerprints with at least one of the segments, identifying a segment type of each segment, the segment type corresponding to the content included in the segment; and categorizing each of the segments according to a heuristic, the heuristic indicative of a likelihood of the categorized segment including an undesirable transmission and identifying a risk assessment of each of the segment types and storing the segment according to the identified risk assessment, storing further including identifying a duration in claims 5, 10-12, 21 and 26-28. Further claims 13 and 29 are dependent claims of claims 12 and 28. As a result, the cited prior art fails to anticipate or render obvious the above-cited claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See PTO-892)

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to APRIL Y. SHAN whose telephone number is (571)270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/April Y Shan/
Examiner, Art Unit 2135

/KimYen Vu/

Supervisory Patent Examiner, Art Unit 2135